

AMENDMENTS TO THE CLAIMS

This Listing of Claims will replace all prior versions, and listings, of claims in this application:

Listing of Claims:

1. (Currently Amended) A processor-implemented runtime resource management method for use with a portable device, said method comprising the steps of:

identifying one or more new application components scheduled to be loaded and stored on said portable device, each of said one or more new application components having a resource description list (RDL) associated therewith, said RDL identifying maximum required runtime resources that will be used when the respective application component is running;

determining maximum required runtime resources for said one or more new application components from each said associated RDL;

determining a CARSRMAX (Currently Available Runtime System Resources of the portable device assuming all already loaded application components are simultaneously using the respective MAXimum amount of runtime resources reserved for their use) of said portable device;

comparing, using said processor, said maximum required runtime resources for said one or more new application components to said CARSRMAX; and

prohibiting, using said processor, said one or more new application components from being loaded and stored on said portable device if said CARSRMAX is less than said maximum required runtime resources for running said one or more new application components.

2. (Previously presented) The method of claim 1, wherein said step of determining said CARSRMAX comprises the steps of:

determining total runtime system resources of said portable device;
determining total maximum reserved runtime resources for application components stored in the flash memory of said portable device; and
calculating said CARSRMAX based on said total runtime system resources and said total maximum reserved runtime resources.

3. (Previously presented) The method of claim 2, further comprising the steps of:
removing one or more of said application components stored in the flash memory of said portable device; and

releasing maximum runtime resources reserved for said one or more application components removed from the flash memory of said portable device, thereby increasing said CARSRMAX of said portable device.

4. (Original) The method of claim 1, wherein said CARSRMAX comprises requirements for at least one or more runtime system resources selected from a group consisting of RAM, threads, and sockets.

5. (Currently Amended) A runtime resource management method for use with a portable device, said method comprising the step of:

reserving maximum runtime resources required for running each application component stored in flash memory of the portable device; and
preventing each application component from using more than its respective reserved maximum runtime resources when running.

6. (Previously presented) The method of claim 5, further comprising the step of:
running one or more of said application components stored in flash memory of the portable device using no more than said maximum required runtime resources reserved for each of said one or more loaded application components.

7. (Currently Amended) The method of claim 6, wherein said running step comprises the steps of:

opening said one or more application components stored in flash memory;
monitoring requests for runtime resources by each of said one or more application components stored in flash memory; and
comparing runtime resources in use plus runtime resources requested to said maximum required runtime resources reserved for each of said one or more application components stored in flash memory; ~~and~~

preventing each of said one or more application components from using more than said maximum required runtime resources reserved for each of said one or more loaded application components stored in flash memory.

8. (Previously presented) The method of claim 5, wherein said reserving step comprises:

allocating a segment of RAM within the portable device to each of said application components stored in flash memory based on RAM requirements in an RDL associated with each of said application components, said allocated segment of RAM being for use by said application components stored in flash memory.

9. (Previously presented) The method of claim 8, further comprising the steps of:
running one or more of said application components stored in flash memory using said allocated segments of RAM;

monitoring RAM use by said one or more application components stored in flash memory; and

preventing each of said one or more application components from using more than said segment of RAM allocated to each of said one or more loaded application components stored in flash memory.

10. (Previously presented) The method of claim 5, wherein said reserving step comprises:

writing thread requirements to a thread table for each of said application component stored in flash memory based on thread requirements in an RDL associated with each of said application components stored in flash memory.

11. (Previously presented) The method of claim 10, further comprising the steps of:

running one or more of said application components stored in flash memory;
monitoring thread use by said one or more running application components; and
preventing each of said one or more running application components from using more threads than said thread requirements listed on said thread table for each of said one or more running application components.

12. (Previously presented) The method of claim 5, wherein said reserving step comprises:

writing socket requirements to a socket table for each of said application components stored in flash memory based on socket requirements in a RDL associated with each of said application components stored in flash memory.

13. (Previously presented) The method of claim 12, further comprising the steps of:

running one or more of said application components stored in flash memory;
monitoring socket use by said one or more running application components; and

preventing each of said one or more running application components from using more sockets than said socket requirements listed on said socket table for each of said one or more running application components.

14. (Previously Presented) A processor-implemented system for managing runtime resources in a portable device, said system comprising:

means for identifying one or more new application components scheduled to be loaded and stored on said portable device, each of said one or more new application components having a resource description list (RDL) associated therewith;

means for determining maximum required runtime resources for said one or more new application components from each said associated RDL;

means for determining a CARSRMAX (Currently Available Runtime System Resources of the portable device assuming already loaded application components are using the MAXimum amount of runtime resources reserved for their use) of said portable device;

processing means for comparing said maximum required runtime resources for said one or more new application components to said CARSRMAX; and

processing means for prohibiting said one or more new application components from being loaded and stored on said portable device if said CARSRMAX is less than said maximum required runtime resources.

15. (Previously presented) The system of claim 14, wherein said means for determining said CARSRMAX comprises:

means for determining total runtime system resources of said portable device;
means for determining total maximum reserved runtime resources for application components stored in the flash memory of said portable device; and
means for calculating said CARSRMAX based on said total runtime system resources and said total maximum reserved runtime resources.

16. (Previously presented) The system of claim 15, further comprising:
means for removing one or more of said application components stored in the flash memory of said portable device; and
means for releasing maximum runtime resources reserved for said one or more application components removed from the flash memory of said portable device, thereby increasing said CARSRMAX of said portable device.

17. (Currently Amended) A system for managing runtime resources in a portable device, said system comprising:
means for reserving maximum runtime resources required for running each application component stored in flash memory of the portable device; and
means for preventing each application component stored in flash memory from using more than said respective reserved maximum runtime resources when running.

18. (Previously presented) The system of claim 17, further comprising:

means for running one or more of said application components stored in flash memory of the portable device using no more than said maximum required runtime resources reserved for each of said one or more loaded application components.

19. (Currently Amended) The system of claim 18, wherein said means for running comprises:

means for opening said one or more application components stored in flash memory;

means for monitoring requests for runtime resources by each of said one or more application components stored in flash memory; and

means for comparing runtime resources in use plus runtime resources requested to said maximum required runtime resources reserved for each of said one or more application components stored in flash memory; ~~and~~

~~means for preventing each of said one or more application components stored in flash memory from using more than said maximum required runtime resources reserved for each of said one or more application components stored in flash memory.~~

20. (Previously presented) A processor-implemented computer program product for managing system resources in a portable device, said computer program product comprising:

computer readable program code embodied in a computer readable medium, the computer readable program code comprising at least:

computer readable program code for identifying one or more new application components scheduled to be loaded and stored on said portable device, each of said one or more new application components having a resource description list (RDL) associated therewith;

computer readable program code for determining maximum required runtime resources for said one or more new application components from each said associated RDL;

computer readable program code for determining a CARSRMAX (Currently Available Runtime System Resources of the portable device assuming already loaded application components are using the MAXimum amount of runtime resources reserved for their use) of said portable device;

computer readable program code for comparing, using said processor, said maximum required runtime resources for said one or more new application components to said CARSRMAX; and

computer readable program code for prohibiting, using said processor, said one or more new application components from being loaded and stored on said portable device if said CARSRMAX is less than said maximum required runtime resources.

21. (Previously presented) The product of claim 20, wherein said computer readable program code for determining said CARSRMAX comprises:

computer readable program code for determining total runtime system resources of said portable device;

computer readable program code for determining total maximum reserved runtime resources for application components stored in the flash memory of said portable device; and

computer readable program code for calculating said CARSRMAX based on said total runtime system resources and said total maximum reserved runtime resources.

22. (Previously presented) The product of claim 21, wherein said computer readable program code embodied in a computer readable medium further comprises:

computer readable program code for removing one or more of said application components stored in the flash memory of said portable device; and

computer readable program code for releasing maximum runtime resources reserved for said one or more application components removed from the flash memory of said portable device, thereby increasing said CARSRMAX of said portable device.

23. (Previously presented) A computer program product for managing system resources in a portable device, said computer program product comprising:

computer readable program code embodied in a computer readable medium, the computer readable program code comprising at least:

computer readable program code for reserving maximum runtime resources required for each application component stored in flash memory of the portable device.

24. (Previously presented) The product of claim 23, wherein said computer readable program code embodied in a computer readable medium further comprises:

computer readable program code for running one or more of said application components stored in flash memory of the portable device using no more than said maximum required runtime resources reserved for each of said one or more application components stored in flash memory.

25. (Previously presented) The product of claim 24, wherein said computer readable program code for running comprises:

computer readable program code for opening said one or more application components stored in flash memory;

computer readable program code for monitoring requests for runtime resources by each of said one or more application components stored in flash memory;

computer readable program code for comparing runtime resources in use plus runtime resources requested to said maximum required runtime resources reserved for each of said one or more application components stored in flash memory; and
computer readable program code for preventing each of said one or more application components stored in flash memory from using more than said maximum required runtime resources reserved for each of said one or more application components stored in flash memory.